

Abstract of the Disclosure

This invention relates to acetylene removal catalysts and their use in the hydrogenating of highly unsaturated hydrocarbons to less unsaturated hydrocarbons in an olefin rich hydrocarbon stream in the presence of hydrogen and a catalyst composition under conditions effective to convert said highly unsaturated hydrocarbon to a less unsaturated hydrocarbon. Said catalyst composition comprises palladium, silver, potassium, and an inorganic support material, wherein the catalyst composition contains less than about 0.3 weight % potassium. In the presence of sulfur-containing impurities, the catalysts of the present invention yield a much smaller increase in T1 (cleanup temperature) and higher ethylene selectivity is achieved.